

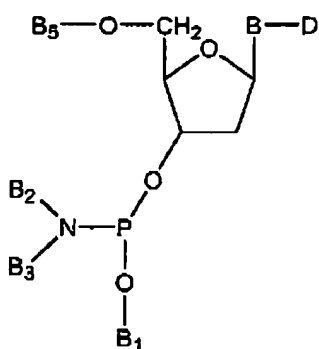
Amendments to the Claims:

This listing of claims will replace all prior listings of claims in the application:

Listing of Claims:

1-41. (previously cancelled)

42. (Previously presented) A phosphoramidite compound having the formula:



wherein:

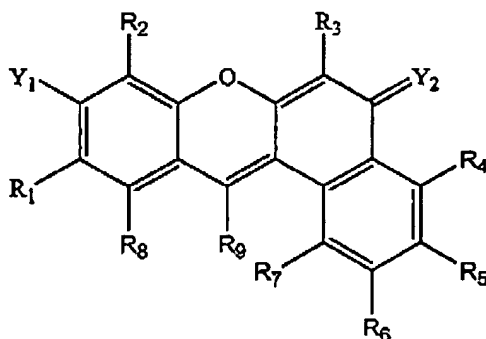
B₁ is a phosphite ester protecting group;

B₂ and B₃, taken separately, are selected from lower alkyl, lower alkene, aryl and cycloalkyl, containing up to 10 carbon atoms;

B₅ is selected from triphenylmethyl radical and electron-donating-substituted triphenylmethyl radical;

B is a nucleobase;

D comprises a dye of the formula:

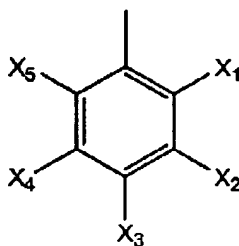


wherein:

Y_1 and Y_2 taken separately are selected from the group consisting of hydroxyl, oxygen, imminium, and amine;

R_1 - R_8 taken separately are selected from the group consisting of hydrogen, fluorine, chlorine, lower alkyl, lower alkene, lower alkyne, sulfonate, sulfone, amino, imminium, amido, nitrile, lower alkoxy, linking group, and combinations thereof; and

R_9 is selected from the group consisting of acetylene, lower alkyl, lower alkene, cyano, phenyl, substituted phenyl, heterocyclic aromatic, and substituted phenyl having the structure:



wherein:

X_1 - X_5 taken separately are hydrogen, chlorine, fluorine, lower alkyl, carboxylic acid, sulfonic acid, $-\text{CH}_2\text{OH}$, or linking group;

wherein when B is purine or 7-deazapurine, the sugar moiety is attached at the N^9 -position of the purine or 7-deazapurine, and when B is pyrimidine, the sugar moiety is attached at the N^1 -position of the pyrimidine;

wherein B and D are linked through a linkage attached to D at one of positions R_1 - R_9 ; and

wherein if B is a purine, the linkage is attached to the 8-position of the purine, if B is 7-deazapurine, the linkage is attached to the 7-position of the 7-deazapurine, and if B is pyrimidine, the linkage is attached to the 5-position of the pyrimidine.

43. (Presently amended) The phosphoramidite compound of claim 42 wherein B_5 is an electron-donating-substituted triphenylmethyl radical.

44. (Presently amended) The phosphoramidite compound of claim 43 wherein the electron-donating-substituted triphenylmethyl radical comprises at least one electron-donating substituent selected from amino, lower alkyl and lower alkoxy.

45. (Presently amended) The phosphoramidite compound of claim 44 wherein the electron-donating substituent is lower alkoxy.

46. (Presently amended) The phosphoramidite compound of claim 43 wherein the electron-donating-substituted triphenylmethyl radical is selected from 4,4'-dimethoxytrityl, monomethoxytrityl and tri(p-methoxyphenyl)methyl.

47. (New) The phosphoramidite compound of claim 42, wherein
one of Y₁ and Y₂ is oxygen and the other is hydroxyl or protected phenolic hydroxyl,
R₉ is substituted phenyl wherein X₁ is carboxyl, X₂ and X₅ are chloro, and one of X₃ and X₄ is a linkage and the other is hydrogen, and either:

- (a) R₁ and R₃ are fluoro, and R₂ and R₄ - R₈ are hydrogen,
- (b) R₁ is chloro, R₃ is fluoro, and R₂ and R₄ - R₈ are hydrogen,
- (c) R₁ is methoxy, R₂ is chloro, R₃ is fluoro, and R₄ - R₈ are hydrogen,
- (d) R₃ is fluoro, and R₁, R₂ and R₄ - R₈ are hydrogen,
- (e) R₁ - R₈ are hydrogen,
- (f) R₁ is chloro, and R₂ - R₈ are hydrogen,
- (g) R₁ is methoxy, R₂ is chloro, and R₃ - R₈ are hydrogen, or
- (h) R₂ and R₃ are chloro, and R₁ and R₄ - R₈ are hydrogen.

48. (New) The phosphoramidite compound of claim 47 wherein B₅ is an electron-donating-substituted triphenylmethyl radical.

49. (New) The phosphoramidite compound of claim 48 wherein the electron-donating-substituted triphenylmethyl radical comprises at least one electron-donating substituent selected from amino, lower alkyl and lower alkoxy.

50. (New) The phosphoramidite compound of claim 49 wherein the electron-donating substituent is lower alkoxy.

51. (New) The phosphoramidite compound of claim 48 wherein the electron-donating-substituted triphenylmethyl radical is selected from 4,4'-dimethoxytrityl, monomethoxytrityl and tri(p-methoxyphenyl)methyl.
52. (New) The phosphoramidite compound of claim 47, wherein
R₁ and R₃ are fluoro, and R₂ and R₄ - R₈ are hydrogen.
53. (New) The phosphoramidite compound of claim 47, wherein
R₁ is chloro, R₃ is fluoro, and R₂ and R₄ - R₈ are hydrogen.
54. (New) The phosphoramidite compound of claim 47, wherein
R₁ is methoxy, R₂ is chloro, R₃ is fluoro, and R₄ - R₈ are hydrogen.
55. (New) The phosphoramidite compound of claim 47, wherein
R₃ is fluoro, and R₁, R₂ and R₄ - R₈ are hydrogen.
56. (New) The phosphoramidite compound of claim 47, wherein
R₁ - R₈ are hydrogen.
57. (New) The phosphoramidite compound of claim 47, wherein
R₁ is chloro, and R₂ - R₈ are hydrogen.
58. (New) The phosphoramidite compound of claim 47, wherein
R₁ is methoxy, R₂ is chloro, and R₃ - R₈ are hydrogen.
59. (New) The phosphoramidite compound of claim 47, wherein
R₂ and R₃ are chloro, and R₁ and R₄ - R₈ are hydrogen.